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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,875	03/15/2004	Christoph Petter	240154US0	8346

22850 7590 06/20/2006

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EXAMINER

MCCLENDON, SANZA L

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/799,875	Applicant(s) PETTER ET AL.	
	Examiner Sanza L. McClendon	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 and 27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-16 and 27 is/are allowed.
- 6) ☒ Claim(s) 17-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to the Amendment received on 4/11/2006, the examiner has carefully considered the amendments.

Terminal Disclaimer

2. The terminal disclaimer filed on 4/11/2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Application Number 10/655,472 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments

3. Applicant's arguments, see Remarks/Arguments, filed 4/11/2006, with respect to claims 17-25 have been fully considered and are persuasive. Applicant has successfully shown Monsheimer et al is not prior art pursuant to 35 USC 103(c), which removes the reference as prior art under 35 USC 102(e) since the application is not to another (same assignment). The rejection of claims 17-25 under 35 USC 102(e) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Monsheimer et al (2004/0137228) has been withdrawn. Additionally, the rejection of claims 10-12, 16, and 24-25 has been withdrawn since Monsheimer et al has been proven not to be prior art for the reasons found in applicant's arguments.

Applicant's arguments filed 4/11/2006, with respect to claims 1-9, 13-15, 17-23, and 27, have been fully considered but are convincing only in part—see reasons below. Applicant's arguments regarding claims 1-9, 13-17 and 27 are convincing and therefore these claims have been removed from the rejection. Staas is silent with regards to the to the particles size of the PMMI component. Regarding claims 17-23, applicant's arguments are not persuasive. Applicant appears to be relying on the limitation "wherein the median grain size d50 of the particles of PMMI is within 20% of the median grain size d50 of the polyamide particles," to overcome the rejection. However, applicant has not provided convincing reasons why the molding produced by the process of claims 17-23 is distinguished from the

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compression molding found in Staas. It has been upheld by the courts, that where rejections under 35 U.S.C. 103 are indicated where prior art discloses product that appears to be either identical with or only slightly different from product claimed in product-by-process claim; Patent Office can require applicant to prove that prior art products do not necessarily or inherently possess characteristics of his claimed product; whether rejection is based on "inherency" under 35 U.S.C. 102, on "prima facie obviousness" under 35 U.S.C. 103, jointly or alternatively, burden of proof is same; Patent Office that has reason to believe that functional limitation asserted to be critical for establishing novelty in claimed subject matter may, in fact, be inherent characteristic of prior art, possesses authority to require applicant to prove that subject matter shown to be in prior art does not possess characteristic relied on. Thus claims 17-23 still remain rejected until applicant has satisfactorily respond to this requirement.

Because claims 24-25 have been removed from Monsheimer et al (see reasons above), the examiner, at this time, will re-instate a previously withdrawn rejection of claims 17-25 under 35 USC 103(a) as obvious over Dickens, Jr. in view of Staas et al—mailed 4-14-2005)—see below.

Claim Rejections - 35 USC § 102/Claim Rejections - 35 USC § 103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 17-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Staas (4,415,706).

Note: claims 17-25 are product-by-process claims and therefore "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of the product does not depend on the method of production. Therefore, if the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process—see *In re Thorpe*, 227 USPQ 967 (Fed. Cir. 1985).

Staas teaches compatible blends of polyglutarimides and polyamides. Said polyamides can be polylactams, such as nylon 6, nylon 11, and nylon 12. The examiner deems these polyamides include unregulated, since there is not a teaching otherwise in the teachings. Staas teaches said polyglutarimides can be found in amounts from 1 to 99 parts by weight and said polyamides can be found in amounts from 99 to 1 parts by weight. Said the process found in US 4,246,374 obtains polyglutarimides, which is incorporated by reference. The specific moieties and ranges of these said either Staas or 4,246,374 expressly teach moieties. US Patent 4,246,374 teaches when less than 100% imidization of the polymer is not obtained that, in addition to the glutarimide unit, acrylic units of the formula found in column 6 are present, wherein R4 is a lower alkyl or other radicals derived from ester moieties. The examiner deems that this includes moiety (iv) of applicant's instant invention. Or in the alternative, the Patent and Trademark Office is not equipped to conduct experimentation in order to determine whether Applicant's polymer (PMMI) differs

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and, if so, to what extent, from the discussed reference. Therefore, with the showing of the reference, the burden of establishing non-obviousness by objective evidence is shifted to the Applicants. Melt blending or solvent blending processes can form said compatible polymer blend. In addition to the PMMI and polyamide other processing components can be added, such as fillers, reinforcing agents, colors, pigments, flame retardants, processing aides and others—see columns 6, lines 20-23. Said compatible blends can be compression molded to make articles having improved optical clarity and toughness—see column 6 and 7. These molded articles appear to anticipate the moldings of claims 17-23.

Claims 17-23 are read in the reference.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 17-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickens, Jr. et al (6,123,948) in view of Staas (4,415,706).

Note: claims 17-25 are product-by-process claims and therefore "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of the product does not depend on the method of production. Therefore, if the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process—see *In re Thorpe*, 227 USPQ 967 (Fed. Cir. 1985).

Dickens, Jr., et al teaches sinterable semi-crystalline powders and articles obtained by selective laser sintering of said powders. Dickens, Jr. et al teaches nylon 11 is a good polyamide for selective laser sintering because the articles obtained have good

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transparency, as well as other nylons—see column 20, lines 5-13 and column 21, lines 64-68.

Dickens, Jr. et al does not expressly teach mixing said nylons with other polymers, such as PMMI, PMMA or PMMI-PMMA copolymers. However, it is known in the art that polyamides, such as nylon 6, 11, and 12 are compatible with blended PMMI polymers resulting in improved melt flow, melt strength, tensile strength, modulus of the polyamides, such as taught by Staas. Additionally the blending also results in improved impact resistance, ductility, and optical clarity. Dickens, Jr. et al and Staas are analogous art because they are from the same field of endeavor that is optically clear molded products comprising polyamides, such as nylons. Therefore it would have been obvious for an artisan of ordinary skill in the art to obtain a laser sintering molding obtained from a mixture of nylon, such as taught by Dickens, Jr. et al, with PMMI, such as taught by Staas. The motivation would have been a reasonable expectation of obtaining an optically clear objected having improved impact resistance and optical clarity then articles made by nylon alone as found in Staas in the absence of evidence to the contrary and/or unexpected results.

Allowable Subject Matter

9. Claims 1-16 and 27 are allowed.

10. The following is an examiner's statement of reasons for allowance: The primary reasons for allowance if the inclusion of the weight ranges of and the specifically claimed constituents of the PMMI as instantly claimed in a sinster powder comprising at least one polyamide in the form of particles and at least one particulate PMMI, wherein the median particles size of the particulate PMMI is within 20% of the median grain size of the particulate polyamide particles. The closest prior art is Staas et al, which teaches compatible blends of polyamides with polyglutarimides (PMMI). The differences between said art and the instant invention is Staas only broadly teach PMMI without giving specific weight ranges to the individual constituents making-up the PMMI useable in said invention. Additionally, Staas et al is silent with regards to the particles sizes of said PMMI and polyamide particles.


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Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sanza L. McClendon
Examiner
Art Unit 1711
6/15/04

SMc